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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/712,304

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Byung-in Ma

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Stein, McEwen & Bui, LLP
1400 Eye Street, N.W.
Suite 300
Washington, DC 20005

EXAMINER

NGUYEN, LINH THI

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/712,304	Applicant(s) MA ET AL.	
	Examiner LINH T. NGUYEN	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 11-19 and 28-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 20-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 and 20-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (US Patent Number 6097695) in view of Moriya et al (US Patent Number 7079477).

In regards to claims 1 and 20, Kobayashi discloses an apparatus and method for reproducing information from an optical information storage medium, the apparatus comprising: a light source which radiates a laser light beam (Fig. 7, element 13); an objective lens which condenses the laser light beam to be focused on the optical information storage medium (Column 7, lines 13-15); a photodetector which receives the laser light beam reflected from the optical information storage medium and which comprises first and second photodiodes which independently convert a received optical signal into first and second electric signals (Column 7, lines 49-61), respectively; a reproduction-related user (RRU) data demodulator which demodulates the reproduction-related user data recorded on the optical storage medium from a sum signal of the first and second electrical signals (Column 8, lines 8-19); and a read only memory-permanent information control (ROM-PIC) data demodulator which demodulates the optical information storage medium-related information recorded on the optical storage medium from the sum signal (Fig. 6, ADIP data are read only

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information). However, Kobayashi does not disclose wherein the optical information storage medium comprises a lead-in area, a user data area, and a lead-out area, whereon optical information storage medium-related information is recorded in at least a portion of the lead-in area by a first modulation method and reproduction-related user data are recorded in a portion of remaining area of the optical information storage medium by a second modulation method which is different from the first modulation method.

In the same field of endeavor, Moriya et al discloses wherein the optical information storage medium comprises a lead-in area, a user data area, and a lead-out area (Fig. 1A, elements 102 and 104), whereon optical information storage medium-related information is recorded in at least a portion of the lead-in area by a first modulation method (Column 11, lines 1-7 and Column 13, lines 32-39) and reproduction-related user data are recorded in a portion of remaining area of the optical information storage medium by a second modulation method which is different from the first modulation method (Column 11, lines 7-11 and Column 13, lines 32-39). At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine the apparatus for reproducing information from an optical information storage medium of Kobayashi to have different modulation method for the lead-in area and the user area as suggested by Moriya et al. The motivation for doing so would have been to reduce the S/N ratio of the reproduction signal obtains by the pit area (Column 8, lines 58-62).

In regards to claims 2 and 21, Kobayashi discloses the optical information reproducing apparatus and method, wherein: the RRU data (user data DU) demodulator reproduces the reproduction-related user data which is recorded on the optical information storage medium according to a run length-limited (RLL) modulation method (Column 13, lines 31-39), and the ROM-PIC data (ADIP data are read only data) demodulator reproduces the optical information storage medium-related information which is recorded on the optical information storage medium according to a bi-phase modulation method (Column 15, lines 19-20).

In regards to claims 3 and 22, Kobayashi discloses the optical information reproducing apparatus and method, wherein the RLL modulation method is an RLL (1, 7) modulation method (Column 14, lines 1-7).

In regards to claims 10 and 27, Kobayashi discloses the optical information reproducing apparatus and method, further comprising a modulation code detector which detects from the sum signal whether the optical information storage medium comprises a plurality of different modulation codes (Fig. 3).

In regards to claim 4-9 and 23-26, Kobayashi and Moriya et al discloses everything that is claimed in claim 1 above. However, Kobayashi and Moriya do not disclose the RLL modulation method is an RLL (1, 7) modulation method, information

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recorded according to the bi-phase modulation method comprises marks and spaces having length of nT , and marks and spaces having length of $2nT$, wherein n is within a range of $2 \leq n \leq 8$, the RLL modulation method is an RLL (2, 10) modulation method, and information recorded according to the bi-phase modulation method comprises marks and spaces having a length of nT , and marks and spaces having a length of $2nT$, wherein n is within a range of $2 \leq n \leq 8$.

It would have been obvious to a one having ordinary skills in the art at the time of the invention was made to have the data is recorded as the pit wobble is bi-phase modulation method, and the second data recording modulation method used in the remaining area in which the data is recorded as the pits an RLL modulation method, the RLL modulation method is an RLL (1, 7) modulation method, information recorded according to the bi-phase modulation method comprised marks and spaces having length of nT , and marks and spaces having length of $2nT$, wherein n is within a range of $2 \leq n \leq 8$, the RLL modulation method is an RLL (2, 10) modulation method, and information recorded according to the bi-phase modulation method comprises marks and spaces having a length of nT , and marks and spaces having a length of $2nT$, wherein n is within a range of $2 \leq n \leq 8$.

The motivation would have been optimization/experimentation in the course of routine engineering. Moreover, absent a showing of criticality, i.e., unobvious or unexpected results, the relationships set forth in claims 4-9 and 23-26 are considered to be within the level of ordinary skill in the art.

Additionally, the law is replete with cases in which the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found.

It is furthermore has been held in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range (s): see *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions; see *Gardner v. TEC Systems, Inc.*,

725 F.2d 1338 (Fed. Cir. 1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art.

Response to Arguments

Applicant's arguments filed 8/14/08 have been fully considered but they are not persuasive. Applicant argues that Kobayashi and Moriya et al do not discloses "a reproduction-related user (RRU) data demodulator which demodulates reproduction-related user data recorded on the optical storage medium from a sum signal of the first and second electrical signals; and read only memory-permanent information control (ROM-PIC) data demodulator which demodulates optical information storage medium-related information recorded on the optical storage medium from the sum signal." However, Kobayashi discloses a reproduction-related user (RRU) and read only memory-permanent information control (ROM-PIC) data from the sum signal (Fig. 11,

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element 53; Column 7, lines 49-61, photodetector 23 receive reflect lights from the medium to executes the addition and subtraction in the matrix circuit to detect the reproduce signal RF and FE signal, therefore, it is well known in the art that the matrix of RF signal is an addition amplifier and a FE/TE is a subtraction amplifier). The signal MO is used to detect the reproducing signal of the magneto-optical disc, therefore, is a differential amplifier (Column 14, lines 17-22). Also, RRU is equivalent to the DU or the user data in Kobayashi and the inner circumference of the optical disc (Column 14, lines 17-31) is equivalent to the ROM-PIC, when combine with Moriya et the inner circumference is the lead-in area with pits of information containing manufacture information and control information (Column 15, lines 21-25). Therefore, it is would have been obvious to a person of ordinary skill in the art to combine the apparatus for reproducing information from an optical information storage medium of Kobayashi to have different modulations for the lead-in pits and data area of the optical disk as suggested by Moriya et al to reduce the S/N ratio of the reproduction signal obtains by the pit area.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Miura et al discloses photodetector detecting RF signal with an addition amplifier and FE/TE signal with differential amplifier.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LINH T. NGUYEN whose telephone number is (571)272-5513. The examiner can normally be reached on 10:00am-7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LN
December 1, 2008

/Wayne Young/
Supervisory Patent Examiner, Art Unit 2627